



# SEQUENCE LISTING

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McWhirter, John  
Maruyama, Toshiaki

2 F

<120> NESTED OLIGONUCLEOTIDES CONTAINING A HAIRPIN FOR NUCLEIC ACID  
AMPLIFICATION

<130> 1087-35 DIV

<140> US 10/628,109

<141> 2003-07-28

<150> US 60/254,669

<151> 2000-12-11

<150> US 60/323,400

<151> 2001-09-19

<150> US 10/014,012

<151> 2001-12-10

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<170> PatentIn version 3.2

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 gagctcggcc cgcgaaagcg ggccgagctc ctgcctgtgc tgactcagcc cccaaa 56  
  
 <210> 200  
 <211> 56  
 <212> DNA  
 <213> artificial sequence  
  
 <220>  
 <223> nesting oligonucleotide  
  
 <400> 200  
 gagctcggcc cgcgaaagcg ggccgagctc cagcctgtgc tgactcaatc atcaaa 56  
  
 <210> 201  
 <211> 56  
 <212> DNA  
 <213> artificial sequence  
  
 <220>  
 <223> nesting oligonucleotide  
  
 <400> 201  
 gagctcggcc cgcgaaagcg ggccgagctc cagcttgtgc tgactcaatc gccaaa 56  
  
 <210> 202  
 <211> 56  
 <212> DNA  
 <213> artificial sequence  
  
 <220>  
 <223> nesting oligonucleotide  
  
 <400> 202  
 gagctcggcc cgcgaaagcg ggccgagctc cagcctgtgc tgactcagcc aycaaa 56  
  
 <210> 203  
 <211> 56  
 <212> DNA  
 <213> artificial sequence  
  
 <220>  
 <223> nesting oligonucleotide

<400> 203  
 gagctcggcc cgcgaaagcg ggccgagctc caggctgtgc tgactcagcc ggcaaa 56

<210> 204  
 <211> 56  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> nesting oligonucleotide

<400> 204  
 gagctcggcc cgcgaaagcg ggccgagctc aattttatgc tgactcagcc ccaaaa 56

<210> 205  
 <211> 56  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> nesting oligonucleotide

<400> 205  
 gagctcggcc cgcgaaagcg ggccgagctc cagactgtgg tgacycagga gccaaa 56

<210> 206  
 <211> 57  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> nesting oligonucleotide

<400> 206  
 gagctcggcc cgcgaaagcg ggccgagctc gcaggctgtg gtgactcagg agccaaa 57

<210> 207  
 <211> 56  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> nesting oligonucleotide

<400> 207  
 gagctcggcc cgcgaaagcg ggccgagctc cagcctgtgc tgactcagcc accaaa 56

<210> 208  
 <211> 56  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> nesting oligonucleotide  
 <400> 208  
 gagctcggcc cgcgaaagcg ggccgagctc caggcagggc tgactcagcc accaaa 56

<210> 209  
 <211> 115  
 <212> PRT  
 <213> artificial sequence

<220>  
 <223> cloned antibody

<400> 209

Glu Ser Asp Gly Ala Val Val Gln Pro Gly Gly Ser Leu Arg Leu Ser  
 1 5 10 15

Cys Ala Ala Ser Gly Phe Ile Phe Asp Asp Phe Ala Met His Trp Leu  
 20 25 30

Arg Gln Val Pro Gly Lys Gly Leu Gln Trp Val Gly Leu Met Ser Trp  
 35 40 45

Asp Gly Val Ser Ala Tyr Tyr Ala Asp Ser Val Glu Gly Arg Phe Thr  
 50 55 60

Ile Ser Arg Asp Asn Lys Lys Asn Ala Leu Tyr Leu Gln Met Asn Ser  
 65 70 75 80

Leu Gly Val Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Lys Asp Met Gly  
 85 90 95

Gly Gly Leu Arg Phe Pro His Phe Trp Gly Gln Gly Thr Pro Val Thr  
 100 105 110

Val Ser Ala  
 115

<210> 210  
 <211> 110  
 <212> PRT  
 <213> artificial sequence

<220>  
 <223> cloned antibody

<400> 210

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr  
1 5 10 15

Leu Ser Ser Ser Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly  
20 25 30

Leu Glu Phe Val Ala Val Ser Ser Gly Asn Gly Phe Ser Thr Tyr Tyr  
35 40 45

Gly Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys  
50 55 60

Asn Met Val Tyr Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala  
65 70 75 80

Lys Tyr His Cys Ala Lys Val Arg Tyr Gly Pro Arg Ser His Phe Phe  
85 90 95

Phe Asp Pro Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
100 105 110

<210> 211

<211> 110

<212> PRT

<213> artificial sequence

<220>

<223> cloned antibody

<400> 211

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr  
1 5 10 15

Leu Ser Ser Ser Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly  
20 25 30

Leu Glu Phe Val Ala Val Ser Ser Gly Asn Gly Phe Ser Thr Tyr Tyr  
35 40 45

Gly Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys  
50 55 60

Asn Met Val Tyr Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala



65		70		75		80									
Lys	Tyr	His	Cys	Ala	Lys	Val	Arg	Tyr	Gly	Pro	Arg	Ser	His	Phe	Phe
			85						90					95	

Phe	Asp	Pro	Trp	Gly	Pro	Gly	Asn	Pro	Gly	His	Arg	Leu	Leu
			100					105					110

<210> 212  
 <211> 112  
 <212> PRT  
 <213> artificial sequence

<220>  
 <223> cloned antibody

<400> 212

Ala	Trp	Tyr	Ser	Arg	Gly	Ser	Pro	Cys	Leu	Ser	Cys	Ala	Ala	Ser	Gly
1			5						10					15	

Phe	Thr	Leu	Ser	Ser	Ser	Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly
			20					25					30		

Lys	Gly	Leu	Glu	Phe	Val	Ala	Val	Ser	Ser	Gly	Asn	Gly	Phe	Ser	Thr
		35					40					45			

Tyr	Tyr	Gly	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn
	50					55					60				

Ser	Lys	Asn	Met	Val	Tyr	Leu	Gln	Met	Asp	Ser	Leu	Arg	Ala	Glu	Asp
65					70					75				80	

Thr	Ala	Lys	Tyr	His	Cys	Ala	Lys	Val	Arg	Tyr	Gly	Pro	Arg	Ser	His
				85					90					95	

Phe	Phe	Phe	Asp	Pro	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
			100					105					110		

<210> 213  
 <211> 122  
 <212> PRT  
 <213> artificial sequence

<220>  
 <223> cloned antibody

<400> 213

Glu Ser Asp Pro Gly Leu Val Lys Pro Ser Glu Thr Pro Ser Leu Thr  
1 5 10 15

Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Thr Met Tyr Phe Trp Gly  
20 25 30

Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile  
35 40 45

Tyr Tyr Ser Gly Thr Thr Tyr Tyr Asn Pro Ser Leu Arg Ser Arg Val  
50 55 60

Thr Met Ser Val Asp Thr Ser Lys Asn Gln Leu Ser Leu Lys Leu Asn  
65 70 75 80

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Pro Thr  
85 90 95

Ile Tyr Tyr Phe Asp Gly Arg Thr Ser Tyr Tyr Pro Gly Glu Ala Ala  
100 105 110

Phe Asp Ile Trp Gly Gln Gly Thr Thr Val  
115 120

<210> 214

<211> 121

<212> PRT

<213> artificial sequence

<220>

<223> cloned antibody

<400> 214

Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val  
1 5 10 15

Ser Gly Gly Ser Ile Ser Asn Ile Met Tyr Phe Trp Gly Trp Ile Arg  
20 25 30

Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile Tyr Tyr Ser  
35 40 45

Gly Thr Thr Tyr Tyr Asn Pro Ser Leu Arg Ser Arg Val Thr Met Ser

50	55	60
Val Asp Thr Ser Lys Asn Gln Leu Ser Leu Lys Leu Asn Ser Val Thr		
65	70	75 80
Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Pro Thr Ile Tyr Tyr		
	85	90 95
Phe Asp Gly Arg Thr Ser Tyr Tyr Pro Gly Glu Ala Ala Phe Asp Ile		
	100	105 110
Trp Gly Gln Gly Thr Thr Val Thr Val		
	115	120
<210> 215		
<211> 114		
<212> PRT		
<213> artificial sequence		
<220>		
<223> cloned antibody		
<400> 215		
Glu Ser Asp Pro Gly Leu Val Gln Pro Ser Gln Thr Leu Ser Leu Thr		
1	5	10 15
Cys Thr Val Ser Gly Gly Ser Leu Arg Ser Asp Asp Tyr Tyr Trp Ser		
	20	25 30
Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Ala Tyr Ile		
	35	40 45
Ser Tyr Thr Gly Gly Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Val		
	50	55 60
Thr Ile Ser Val Asp Thr Ser Arg Asn Gln Phe Ser Leu Arg Leu Arg		
65	70	75 80
Ser Val Thr Ala Ala Asp Ser Ala Val Tyr Phe Cys Ala Ser Thr Thr		
	85	90 95
Ala Val Thr Thr Thr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val Thr		
	100	105 110

Val Ser

<210> 216  
<211> 104  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 216

Pro Val Gln Pro Leu Glu Phe Thr Phe Thr Asp His Trp Met His Trp  
1 5 10 15

Val Arg Gln Ala Pro Gly Lys Gly Leu Val Trp Leu Ala Arg Ile Asn  
20 25 30

Arg Asp Gly Ser Asp Thr Thr Tyr Ala Asp Ser Val Thr Gly Arg Phe  
35 40 45

Thr Ile Ser Arg Asp Asn Gly Lys Asn Thr Val Ser Leu Gln Met Asp  
50 55 60

Ser Leu Ser Val Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly  
65 70 75 80

His His Thr Val Leu Ser Pro Leu Ser Asn Trp Phe Asp Pro Trp Gly  
85 90 95

Gln Gly Thr Leu Val Thr Val Ser  
100

<210> 217  
<211> 110  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 217

Glu Ser Glu Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser  
1 5 10 15

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Ala Met Thr Trp Val

20	25	30
Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Thr Met Thr Gly		
35	40	45
Ser Gly Gly Val Thr Tyr Tyr Ala Asp Val Leu Lys Gly Arg Phe Thr		
50	55	60
Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser		
65	70	75
Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys Gly Tyr Gly		
85	90	95
Leu Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser		
100	105	110
<210> 218		
<211> 115		
<212> PRT		
<213> artificial sequence		
<220>		
<223> cloned antibody		
<400> 218		
Leu Ala Gly Val Glu Val Val Gln Pro Gly Gly Ser Leu Arg Leu Ser		
1	5	10
Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr Ala Met His Trp Leu		
20	25	30
Arg Gln Ile Pro Gly Lys Gly Leu Gln Trp Val Ser Leu Leu Ser Trp		
35	40	45
Asp Gly Val Ser Ala Tyr Tyr Ala Asp Ser Val Glu Gly Arg Phe Thr		
50	55	60
Ile Ser Arg Asp Asn Lys Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser		
65	70	75
Leu Arg Ala Glu Asp Val Ala Leu Tyr Tyr Cys Ala Lys Asp Met Gly		
85	90	95

Gly Ala Gln Arg Leu Pro Asp His Trp Gly Gln Gly Thr Leu Val Thr  
100 105 110

Val Ser Ser  
115

<210> 219  
<211> 114  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 219

Gly Gly Gly Leu Val Gln Pro Gly Ala Ser Val Lys Val Ser Cys Lys  
1 5 10 15

Ala Ser Gly Tyr Thr Phe Ser Asp Tyr Phe Met His Cys Val Arg Gln  
20 25 30

Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Leu Val Asn Pro Thr Asn  
35 40 45

Gly Tyr Thr Ala Tyr Ala Pro Lys Phe Gln Gly Arg Val Thr Met Thr  
50 55 60

Arg Gln Arg Phe Thr Ser Thr Val Tyr Met Glu Leu Ser Ser Leu Arg  
65 70 75 80

Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Val Lys Ser Ser Asp  
85 90 95

Ser Ile Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val Thr Val  
100 105 110

Ser Ser

<210> 220  
<211> 103  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 220

Arg Cys Pro Ala Lys Leu Leu Asp Thr Pro Phe Ser Val Tyr Phe Met  
1 5 10 15

His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Leu  
20 25 30

Val Asn Pro Thr Asn Gly Tyr Thr Ala Tyr Ala Pro Lys Phe Gln Gly  
35 40 45

Arg Val Thr Met Thr Arg Gln Arg Phe Thr Ser Thr Val Tyr Met Glu  
50 55 60

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg  
65 70 75 80

Val Lys Ser Ser Asp Ser Ile Asp Ala Phe Asp Ile Trp Gly Gln Gly  
85 90 95

Thr Met Val Thr Val Ser Ser  
100

<210> 221

<211> 103

<212> PRT

<213> artificial sequence

<220>

<223> cloned antibody

<400> 221

Arg Cys Pro Ala Lys Leu Leu Asp Thr Pro Ser Gly Asp Tyr Phe Met  
1 5 10 15

His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Leu  
20 25 30

Val Asn Pro Thr Asn Gly Tyr Thr Ala Tyr Ala Pro Lys Phe Gln Gly  
35 40 45

Arg Val Thr Met Thr Arg Gln Arg Phe Thr Ser Thr Val Tyr Met Glu  
50 55 60

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg  
65 70 75 80

Val Lys Ser Ser Asp Ser Ile Asp Ala Phe Asp Ile Trp Gly Gln Gly  
85 90 95

Thr Met Val Thr Val Ser Ser  
100

<210> 222  
<211> 115  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 222

Ser Gly Gly Leu Val Gln Arg Gly Ala Lys Val Leu Arg Leu Ser Cys  
1 5 10 15

Val Ala Ser Gly Phe Thr Phe Ser Ser Ser Ala Met Ser Trp Val Arg  
20 25 30

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Val Ile Ser Gly Asn  
35 40 45

Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val Lys Arg Phe Thr Ile Ser  
50 55 60

Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg  
65 70 75 80

Ala Glu Asp Thr Ala Glu Tyr Tyr Cys Thr Lys Val Lys Tyr Gly Ser  
85 90 95

Gly Ser His Phe Trp Phe Asp Pro Trp Gly Gln Gly Thr Leu Val Thr  
100 105 110

Val Ser Ser  
115

<210> 223  
<211> 83  
<212> PRT



<213> artificial sequence

<220>

<223> cloned antibody

<220>

<221> MISC\_FEATURE

<222> (23)..(23)

<223> Xaa is unknown

<220>

<221> MISC\_FEATURE

<222> (29)..(29)

<223> Xaa is unknown

<220>

<221> MISC\_FEATURE

<222> (52)..(52)

<223> Xaa is unknown

<220>

<221> MISC\_FEATURE

<222> (76)..(76)

<223> Xaa is unknown

<400> 223

Leu Gly Ser Pro Tyr Ser Ser Ser Ala Met Ser Trp Val Arg Gln Ala  
1 5 10 15

Pro Gly Lys Gly Leu Glu Xaa Val Ser Phe Ile Ser Xaa Asn Gly Leu  
20 25 30

Ser Ala Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg  
35 40 45

Asp Asn Ser Xaa Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ser  
50 55 60

Glu Asp Thr Ala Glu Tyr Tyr Cys Val Lys Val Xaa Tyr Gly Ser Arg  
65 70 75 80

Ser His Phe

<210> 224

<211> 115

<212> PRT

<213> artificial sequence

<220>

<223> cloned antibody

<400> 224

Val Glu Ser Gly Gly Val Val Gln Pro Gly Ala Lys Val Leu Arg Leu  
1 5 10 15

Ser Cys Ala Ala Ser Gly Phe Ser Phe Glu Asp Tyr Ala Met His Trp  
20 25 30

Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Val Ala Leu Ile Ser  
35 40 45

Trp Asp Val Ile Ser Ala Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe  
50 55 60

Thr Ile Ser Arg Asp Asn Ser Lys Asn Ser Leu Tyr Leu Gln Met Asp  
65 70 75 80

Ser Leu Arg Pro Glu Asp Ser Gly Leu Tyr Tyr Cys Gly Arg Asp Ile  
85 90 95

Gly Gln Gln Arg Thr Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr  
100 105 110

Val Ser Ser  
115

<210> 225

<211> 98

<212> PRT

<213> artificial sequence

<220>

<223> cloned antibody

<400> 225

Ala Ala Ser Gly Phe Ile Phe Asp Asp Phe Ala Met His Trp Phe Gln  
1 5 10 15

Ala Val Pro Gly Lys Gly Leu Gln Trp Val Gly Leu Met Ser Trp Asp  
20 25 30

Gly Val Ser Ala Tyr Tyr Ala Asp Ser Val Glu Gly Arg Phe Thr Ile  
35 40 45

Ser Arg Asp Asn Lys Lys Asn Ala Leu Tyr Leu Gln Met Asn Ser Leu  
50 55 60

Gly Val Glu Asp Thr Ala Leu Tyr Phe Cys Ala Lys Asp Met Gly Gly  
65 70 75 80

Gly Leu Arg Phe Pro His Phe Trp Gly Gln Gly Thr Pro Val Thr Val  
85 90 95

Ser Ala

<210> 226  
<211> 111  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 226

Phe Trp Leu Gly Gly Pro Trp Arg Leu Ser Cys Ala Val Ser Gly Tyr  
1 5 10 15

Thr Leu Ser Ser Ser Ala Met Ile Trp Val Arg Gln Pro Pro Gly Lys  
20 25 30

Gly Leu Glu Phe Val Ser Val Ile Ser Gly Asn Gly Leu Ser Ala Tyr  
35 40 45

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser  
50 55 60

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr  
65 70 75 80

Ala Glu Tyr Tyr Cys Val Lys Val Lys Tyr Gly Ser Arg Ser His Phe  
85 90 95

Phe Phe Asp Ser Trp Gly Gln Gly Thr Leu Val Ser Val Ser Pro  
100 105 110

<210> 227

<211> 115  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 227

Gly Gly Gly Leu Val Gln Pro Gly Ala Ser Leu Arg Leu Ser Cys Val  
1 5 10 15

Ala Ser Gly Phe Thr Leu Ser Ser Ser Ala Met Ser Cys Val Arg Gln  
20 25 30

Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Val Ser Ser Gly Asn Gly  
35 40 45

Phe Ser Ala Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser  
50 55 60

Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Val  
65 70 75 80

Ala Glu Asp Thr Ala Glu Tyr Tyr Cys Thr Lys Val Asn Tyr Gly Ser  
85 90 95

Arg Ser His Phe Tyr Phe Gly Ser Trp Gly His Gly Thr Leu Val Ile  
100 105 110

Val Ser Ser  
115

<210> 228  
<211> 114  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 228

Trp Gly Arg Arg Gly Pro Ala Trp Gly Val Pro Val Gly Ser Pro Val  
1 5 10 15

Gln Pro Leu Gly Tyr Thr Phe Asp Asp Tyr Ala Met His Trp Leu Arg  
20 25 30

Gln Ile Pro Gly Lys Gly Leu Gln Trp Val Ser Leu Leu Ser Trp Asp  
 35 40 45

Gly Val Ser Ala Tyr Tyr Ala Asp Ser Val Glu Gly Arg Phe Thr Ile  
 50 55 60

Ser Arg Asp Asn Lys Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu  
 65 70 75 80

Val Ala Glu Asp Thr Ala Leu Tyr Phe Cys Ala Lys Asp Met Gly Gly  
 85 90 95

Ala Gln Arg Leu Pro Asp His Trp Gly Gln Gly Thr Leu Val Thr Val  
 100 105 110

Ser Ser

<210> 229  
 <211> 115  
 <212> PRT  
 <213> artificial sequence

<220>  
 <223> cloned antibody

<220>  
 <221> MISC\_FEATURE  
 <222> (70)..(70)  
 <223> Xaa is unknown

<400> 229

Trp Thr Gly Gly Gly Val Val Gln Pro Gly Gly Ser Leu Arg Val Ser  
 1 5 10 15

Val Ala Ala Ser Gly Tyr Thr Phe Asp Asp Tyr Ala Met His Trp Leu  
 20 25 30

Arg Gln Ile Pro Gly Lys Gly Leu Gln Trp Val Ser Leu Leu Ser Trp  
 35 40 45

Asp Gly Val Ser Ala Tyr Tyr Ala Asp Ser Val Glu Gly Arg Phe Thr  
 50 55 60

Ile Ser Arg Asp Asn Xaa Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser  
65 70 75 80

Leu Ile Ala Glu Asp Thr Ala Leu Tyr Phe Cys Ala Lys Asp Met Gly  
85 90 95

Gly Ala Gln Arg Leu Pro Asp His Trp Gly Gln Gly Thr Leu Val Thr  
100 105 110

Val Ser Ser  
115

<210> 230  
<211> 120  
<212> PRT  
<213> artificial sequence

<220>  
<223> cloned antibody

<400> 230

Ala Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly Ser Leu Arg Leu  
1 5 10 15

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr Thr Leu Ser Trp  
20 25 30

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Tyr Ile Ser  
35 40 45

Thr Asp Gly Ser Thr Ile Tyr Tyr Thr Asp Ser Val Lys Gly Arg Phe  
50 55 60

Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Ser Leu Gln Met Ile  
65 70 75 80

Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Val Phe  
85 90 95

Phe Gly Gly Asn Phe Arg Ala His Trp Tyr Phe Asp Leu Trp Gly Arg  
100 105 110

Gly Thr Leu Val Ala Val Ser Ser  
115 120

<210> 231  
<211> 47  
<212> DNA  
<213> artificial sequence

<220>  
<223> primer

<400> 231  
agaatttgac tagttggcaa gaggcacgtt cttttctttg ttgccgt

47